Remarks

Claims 116, 124-131 and 139-144 are presently pending in the subject application. Claims 153, 160, 161, 170-177, 182 and 183 are canceled herein without disclaimer or prejudice to the prosecution of the subject matter of these claims in this or a future continuing application.

Claim 116 has been amended herein to clarify that the target binding region of the claimed probe consists of or is contained within and includes at least 18 contiguous bases of one of the recited sequences. This amendment does not constitute a narrowing amendment.

Claim Objections

Claims 124-125 and 176-177 stand objected to by the Examiner under 37 C.F.R. § 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. To the extent that this objection applies to claims 176 and 177, Applicants submit that this objection is rendered moot by the cancellation of claims 176 and 177 herein. As it applies to claims 124 and 125, Applicants respectfully traverse this rejection for the reasons that follow.

The Examiner appears to conclude that claims 116, 124 and 125 encompass the same base sequence. This is not the case. Claims 116 recites a probe that comprises a target binding portion, the base sequence of which consists of or is contained within and includes at least 18 contiguous bases of one of the recited sequences. Claim 124 further limits claim 116 by reciting that the target binding region consists of one of the recited sequences. And claim 125 further limits claim 116 by reciting that the base sequence of the probe, and not just the target binding portion, consists of or is contained within one of the recited sequences (a similar amendment has been made to claim 140). Accordingly, withdrawal of these claim objections is respectfully requested.

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 175-177 stand rejected by the Examiner under 35 U.S.C. § 112, first paragraph. Applicants submit that this rejection is rendered moot by the cancellation of claims 175-177 herein. Accordingly, withdrawal of this rejection is hereby respectfully requested.

Rejection Under 35 U.S.C. § 102

Claims 116, 124-130, and 175-177 stand rejected by the Examiner under 35 U.S.C. § 102(e) as being anticipated by Peiris *et al.* (U.S. Patent Application Publication No. US 2005/0009009 A1). To the extent that this rejection applies to claims 176 and 177, Applicants submit that this rejection is rendered moot by the cancellation of claims 175-177 herein. As it applies to claims 116 and 124-130, Applicants respectfully traverse this rejection for the following reasons.

In support of this rejection, the Examiner has interpreted the scope of the claims in a manner that is inconsistent with the clear language of the claims. First, the Examiner holds that the phrase "a base sequence selected from the group consisting of SEQ ID NO:3, its complement, and the DNA equivalents thereof" includes any base sequence having at least one nucleotide in common with SEQ ID NO:3, its complement, and the DNA equivalents thereof. This interpretation ignores the full language of the claims, which recite a base sequence that "consists of or is contained within and includes at least 18 contiguous bases" of the base sequence. Thus, a base sequence having only one nucleotide in common with the claimed probe would not satisfy the limitations of the claims.

Second, the Examiner contends that the phrase "the DNA equivalents thereof" can be interpreted to include any RNA which would detect SARS-CoV." For clarification, Applicants wish to note that what is recited in the referenced portion of the claims is "DNA," and not "RNA" as the Examiner suggests, for detecting nucleic acid derived from SARS-CoV. Concerning the equivalence language used, it is clear from the specification that what is being referred to is a structural equivalence as opposed to a functional equivalence. *See, e.g.*, specification at page 25, lines 22-27

("RNA and DNA equivalents have different sugar moieties (*i.e.*, ribose versus deoxyribose) and may differ by the presence of uracil in RNA and thymine in DNA."). Thus, there is no basis for concluding that the claims cover any sequence for detecting SARS-CoV.

For the above reasons, Applicants submit that the Examiner's Section 102 rejection is flawed and, accordingly, withdrawal of this rejection is respectfully requested.

Rejection Under 35 U.S.C. § 103

Claims 116, 124-130, and 175-177 stand rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over GenBank Accession No. NC_004718.1 in view of Peiris *et al.* (U.S. Patent Application Publication No. US 2005-0009009 A1). GenBank Accession No. NC_004718.1 is cited for disclosing the complete genomic sequence of the SARS coronavirus, and Peiris is cited for teaching the use of oligonucleotides in a diagnostic assay for detecting SARS. To the extent that this rejection applies to claims 175-177, Applicants submit that this rejection is rendered moot by the cancellation of claims 175-177 herein. As it applies to claims 116 and 124-130, Applicants respectfully traverse this rejection for the reasons that follow.

Based on guidance provided in Peiris, the Examiner contends that it would have been obvious to select equivalent oligonucleotides for detecting the SARS coronavirus, including those of SEQ ID Nos. 3, 24 and 25. From the information provided by Peiris, the Examiner asserts that there is "a reasonable expectation of success that every probe would function in a detection assay." This contention is rebutted, however, by Applicants' demonstration that probes targeting an at least 18 base region contained within a sequence corresponding to SEQ ID NO:3 functioned well at detecting nucleic acid derived from SARS coronavirus, while overlapping probes that were tested did not. In response, the Examiner points out that the claims are not limited to the probes tested in Examples 1 and 2, but rather cover "any sequence of SEQ ID NO:3 or any small fragment of SEQ ID NO:3 that is at least 18 contiguous bases." (Emphasis added.) Applicants find this line of

argumentation to be misleading, as 18 contiguous bases of SEQ ID NO:3 is nearly 80% of this sequence, which is hardly a small fragment. Moreover, the detection probe of Example 1 (SEQ ID NO:7) contained a target binding region that shared 18 contiguous bases in common with SEQ ID NO:3 starting from the 5'-most base of SEQ ID NO:3, and the detection probe of Example 2 (SEQ ID NO:46) shared 21 contiguous bases in common with SEQ ID NO:3 ending with the 3'-most base of SEQ ID NO:3. Thus, the target binding regions of SEQ ID Nos. 7 and 46 are fully contained within SEQ ID NO:3, both sequences share at least 18 contiguous bases in common with SEQ ID NO:3, both sequences have at least about 80% identity with SEQ ID NO:3, the two sequences share 16 contiguous bases in common, and together they span the entirety of SEQ ID NO:3.

The detection probes that did not perform well at detecting nucleic acid derived from SARS coronoavirus (SEQ ID Nos. 44 and 45) shared only 5 contiguous bases in common with the ends of SEQ ID NO:3. And, contrary to the Examiner's contention, Applicants have not argued that probes having identity with the ends of SEQ ID NO:3 should not function to detectably hybridize to nucleic acid derived from SARS coronavirus. Rather, Applicants have stressed that probes which merely overlap with small end portions of SEQ ID NO:3 did not appreciably hybridize to amplification products derived from SARS coronavirus. Therefore, Applicants have maintained that the superior detection properties of the claimed probes were not expected and that the scope of the claims is not overly broad based on the limited language of the claims and the particular probes exemplified.

For the reasons presented, Applicants submit that the claims are fully patentable in view of the cited art. Accordingly, withdrawal of this rejection is hereby respectfully requested.

Conclusion

Applicants submit that the subject application is in condition for allowance and, accordingly, early notice to that effect is respectfully requested.

Please charge the fee due for a three-month extension of time, and any other fee which may be due, to Deposit Account No. 07-0835 in the name of Gen-Probe Incorporated.

Respectfully submitted,

Date: October 20, 2008

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